

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
21 April 2005 (21.04.2005)

PCT

(10) International Publication Number  
**WO 2005/034691 A3**

(51) International Patent Classification<sup>7</sup>: **F16F 3/04**

(21) International Application Number:  
PCT/US2004/032960

(22) International Filing Date: 4 October 2004 (04.10.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/510,662 10 October 2003 (10.10.2003) US

GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(71) Applicant (*for all designated States except US*): FLEXSTEEL INDUSTRIES, INC. [US/US]; Metal Division, P.O.Box 877, Dobuque, IA 52004-0877 (US).

Declaration under Rule 4.17:  
— of inventorship (Rule 4.17(iv)) for US only

(71) Applicant and

(72) Inventor: MAAS, Patrick, J. [US/US]; 11509 Sanders Lane, Dubuque, IA 52001 (US).

Published:  
— with international search report  
— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

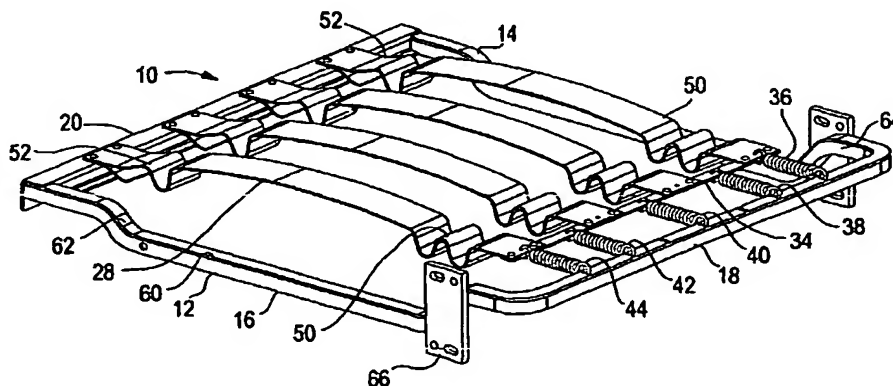
(74) Agent: BREZINA, David, C.; Barnes & Thornburg LLP, P.O. Box 2786, Chicago, IL 60690 (US).

(88) Date of publication of the international search report:  
17 November 2005

(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: DOUBLE SPRING FUNCTION UPHOLSTERED FURNITURE SPRING ASSEMBLIES



(57) Abstract: A double spring function seat spring assembly combines a U-shaped frame with a closed front, a number of leaf springs (26-28) connected between the front and a cross piece and a plurality of coil springs (36, 38, 40) supporting the cross piece from the frame, the leaf springs formed with a series of W and V arches to enable flexing and extension for improved durability and comfort.

WO 2005/034691 A3